EXECUTIVE SUMMARY

This document provides the management plans for conducting a remedial investigation in the marine waters near the former Rayonier Pulp and Paper Mill in Port Angeles, Washington. The document is organized into three sections:

1. *The Work Plan:* Although referenced in the Washington State Model Toxics Control Act, the state of Washington provides no specific guidance on the format of remedial investigation work plans. Thus, Part 1 of the management plans provides a work plan that follows the U.S. EPA (1988) outline for developing a work plan to conduct remedial investigations (RIs).

2. *The Sampling and Analyses Plan:* The second part of the management plans provides a sampling and analyses plan for the collection and evaluation of the data during the RI/FS process. It provides detailed information and protocols on the collection, evaluation, and presentation of data. This section follows the outline and guidance provided by Ecology.

3. *The Quality Assurance Project Plan:* Part 3 of this volume documents the QAPP following the Ecology (1991) guidance document.

To reduce repetitive sections, and provide all the information relevant to the forthcoming work in one location, the plans noted above have been consolidated herein. The Work Plan (Part I) is structured to parallel the environmental media (marine sediments and marine biota) and issues of concern. Section 1 contains the introduction, including the general background, purpose, and regulatory framework. Section 2 covers the site background and setting, including a history of operations and the present environmental setting. Section 3 contains the initial evaluation, with a summary of previous investigations by media type, the known and expected contaminants, and the conceptual site model. The model addresses sources, transport mechanisms, and exposure pathways of concern. Section 4 details the Work Plan rationale, including data quality objectives, and the approach and overview to the Work Plan, again by media type. Section 5 describes the remedial investigation tasks, covering project planning, sample collection and analysis, data validation and evaluation, and risk assessment. This assessment is divided into a human health risk analysis and an ecological risk analysis. The contents of the investigation report, which will follow this Work Plan, are also covered. Section 6 includes a summary schedule, and Section 7 describes the project management staff, and their responsibilities. Key elements are noted below.

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The former Rayonier Mill Site is directly adjacent to Port Angeles Harbor in the Strait of Juan de Fuca, along the northern coast of Washington's Olympic Peninsula. The pulp mill operated between 1930 and 1997, producing dissolving grade pulps from wood chips. Operations were conducted in various process areas throughout the site. Production ceased in 1997, and dismantling activities were completed in October 1999. A preliminary investigation of the site was conducted during 1997/98 under the auspices of the United States Environmental Protection Agency (EPA), as part of its site ranking process. Because these data were collected under quality control guidelines consistent with state and federal cleanup regulations, the current investigation is primarily designed to augment this data set. The general scope of the objectives of the investigation is to assess the nature and extent of chemicals of concern to determine the current and future risks to human health and the environment. A phased approach will be followed throughout the investigation. Phase I will address currently identified data gaps. As necessary, subsequent phases will focus on the collection of additional data as needs are further identified. In addition, some parallel activities have been discussed, and as these data become available they too may be evaluated as part of the RI and as appropriate, used to develop additional sampling and cleanup actions.

In terms of regulatory framework, EPA has opted to defer a National Priorities List (NPL) rating and allow a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)-protective cleanup to proceed under the state of Washington's (Ecology's) direction. The deferral agreement has the concurrence of the Lower Elwha Klallam Tribe (the Tribe). In the state of Washington, the administrative process and standards for investigating and cleaning up facilities impacted by hazardous substances are promulgated under the Model Toxics Control Act (MTCA). Under MTCA, a remedial investigation and feasibility study (RI/FS) is required once a site is prioritized for remedial action. The RI/FS focuses on collecting, developing, and evaluating enough information to select a cleanup action. Remedial actions at the former Rayonier Mill Site will be conducted under the provisions of an Agreed Order with Ecology.

Part 2 of the project plans documents the Sampling and Analyses Plan for the marine waters and sediments near the mill. In previous investigations, EPA (Ecology and Environment, Inc., 1998) and Ecology (Science Applications International Corporation, 1999) characterized marine sediment quality and the extent of wood debris on the harbor bottom near the former

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Rayonier Mill Site and in Port Angeles Harbor. Following these investigations, divers surveyed the seafloor near the facility in preparation for the additional sediment sampling and characterization proposed herein. The proposed sampling activities and locations will fill specific data gaps and enable a comprehensive characterization of the chemicals of potential concern in sediments, wood debris, and biota near the former Rayonier Mill Site.

Sediment quality will be assessed pursuant to the Washington State Sediment Management Standards, including the initial evaluation of sediment chemistry against the sediment quality standard and cleanup screening level standards, followed by optional confirmational biological testing, if necessary. A phased approach is planned. In Phase I, surface sediments will be collected near existing areas with Sediment Quality Standard exceedances to define the horizontal extent of areas of concern and to delineate any contaminant gradients. Sediment toxicity bioassays will be conducted during Phase 1 at specific locations as indicated by results of the sediment chemistry analyses. This information will be evaluated and used to guide Phase II of the investigation, which may include supplemental characterization of the horizontal and vertical extent of contamination.

Past investigations indicate accumulations of wood debris in scattered locations near the mill dock and log pond areas. For these areas, toxicity bioassays will include the standard testing procedure (i.e., purging, if necessary) as well as the testing without reduced ammonia and sulfide levels (i.e., non-purged). Samples subjected to both test protocols will be those with elevated total organic carbons (e.g., generally more than 10 percent), elevated concentrations of resin and fatty acid constituents, or reported heavy accumulations of wood debris.

Although the former Rayonier Mill Site has discontinued operation, chemicals of potential concern that may be in sediments in the study area represent potential sources of chemical exposure to marine organisms. Target species of flatfish, crab, and clams will be sampled near the plant site, near the Rayonier deepwater outfall diffuser, and at appropriate reference locations. Chemicals of potential concern accumulations in excess of reference area values will be used to assess risk to higher trophic level organisms, including humans, as described in Volume I of the project plans.